REGOR XHD
Extra-Heavy Duty
(FCC ID: XVY-IDRO900F)

USER'S MANUAL

February 2014

STAR SYSTEMS INTERNATIONAL

■ Revision history

Version	Date	Revision page	Revision Description
V1.3.10S	2013-08-20		Updated
V1.3.20S	2014-02-14		Minor Updates
V1.3.21S	2014-04-08		Minor Edits

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1. Overview and System block diagram

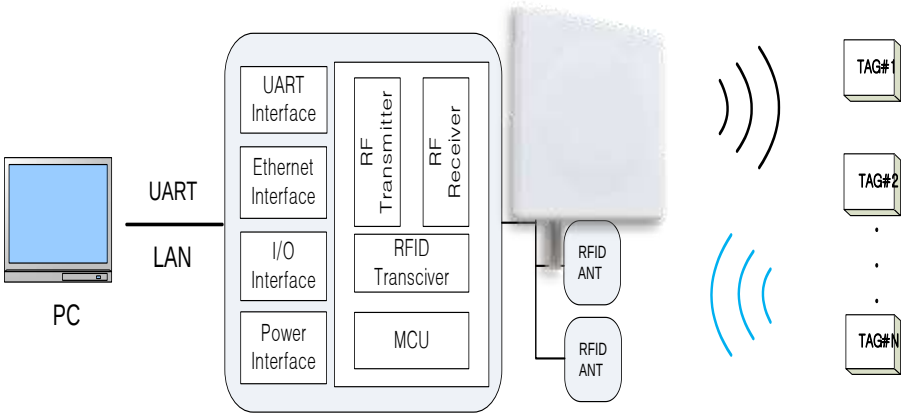
Overview

This product is a Fixed type RFID Transceiver\Reader with the capabilities of reading from and writing to EPC C1G2, ISO 18000-6C RFID tags or transponders. It is designed to be utilized in various RFID applications. The reader can cover a wide read area by using the options to connect up to two external antennas. It has excellent read distance and exhibits fast reading and high data transfer rates including the ability to read multiple memory banks of a tag in an efficient manner. The reader is integrated into an extra heavy duty enclosure with an antenna; this design enables the reader to perform in harsh outdoor environments and withstand various weather and environmental conditions.

Target Applications:

- Parking and access control systems
- Intelligent traffic control systems
- Asset tracking systems
- Security management systems
- Logistic management systems
- Other applications

● System block diagram



2. Components

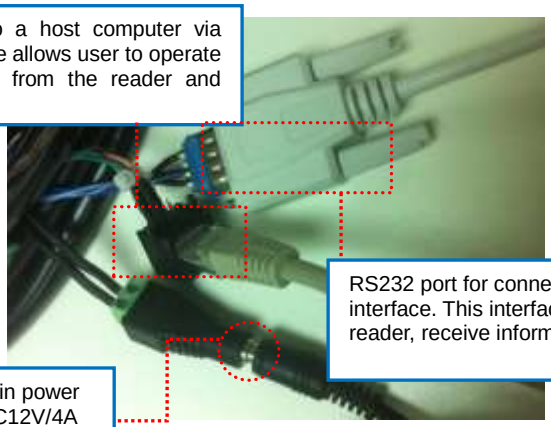
REGOR RFID Reader + IP66 Rated Enclosure	
Up to 2 External Antennas (optional, not included)	
Antenna cable (optional, not included)	
DC12V/4A Adaptor	
Interface cable	
Mounting bracket	

3. Names and description of the product

Interface connector

Interface cable

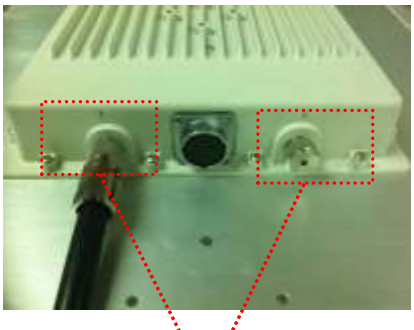
Ethernet port for connecting to a host computer via TCP/IP connection. This interface allows user to operate the reader, receive information from the reader and perform firmware upgrades.



RS232 port for connecting to a host computer via serial interface. This interface allows user to operate the reader, receive information from the reader.

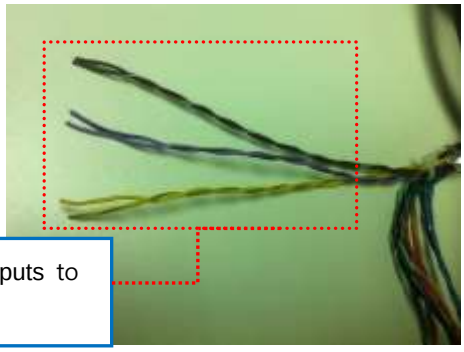
DC12V : It is the connector to plug in power of the RFID reader (requires the DC12V/4A adapter)

ANT Port



ANT2/ANT3: External antenna ports for connection to optional external antennas using 50 ohm coaxial cable;

I/O Connection



Wire connections for 2 inputs, 3 Outputs to interface with external devices.

GND	Input		Output		
	1	2	1	2	3
Yellow	Yellow w/B	Purple	Purple w/B	Brown	Brown w/B
Ground	(3 ~ 24VDC)		+3.3V, 300mA(max.)		

4. Reader Specification

● Reader Properties

Description	
MODEL	REGOR XHD
Architecture	UHF RFID Reader
Protocol	EPC Gen2 (ISO 18000-6C)
Frequency	860MHz to 960MHz (According to local regulation)
Max Tx Power	30dBm±1dBm (1W)
Power control	5dBm to 30dBm (1dB step)
Modulation Method	PR-ASK (Miller 2 or Miller 4)
Supply voltage	9V-12V(max)
Max Current (max power)	< 2A
Operating Temperature	-20℃ to +50℃
Communication interface	RS-232 : Baud rate(9600bps, 115200bps), LAN: RJ-45

● RF Interface

Antenna Connectors	**N-type Female**

● Antenna Options

Model Detail	Major	Minor
Antenna Dimensions	**450 × 450 × 42.5 mm**	**216 × 216 × 25 mm**
Enclosure Dimensions	**265 x 265 x 54.5 mm**	**212.6 x 212.6 x 54.5 mm**
Total Weight (+/- 0.05 kg) (includes mounting bracket, excludes interface cable)	**4.65 kg**	**2.83 kg**
Polarization	**Circular**	**Circular**
Gain	**12 dBi**	**8 dBi**
3dB Beam-Width, H-Plane	**40**	**90**
3dB Beam-Width, E-Plane	**40**	**90**
Impedance	**50 Ω**	
VSWR	**≤1.5**	
Frequency Ranges:	**Option1: 902-928 Mhz** **Option 2: 865-868 Mhz**	

- **Power control level table**

Power control level	Power(dBm)
300	30
290	29
280	28
270	27
260	26
250	25
240	24
230	23
220	22
210	21
200	20
190	19
180	18
170	17
160	16
150	15
140	14

- **Hopping Channel allocation**

Regional channel hopping profiles	Brazil, China, ETSI, FCC, India, Indonesia, Japan, Korea, Malaysia, South East Asia, Taiwan
Channel Dwell time	< 0.4 seconds

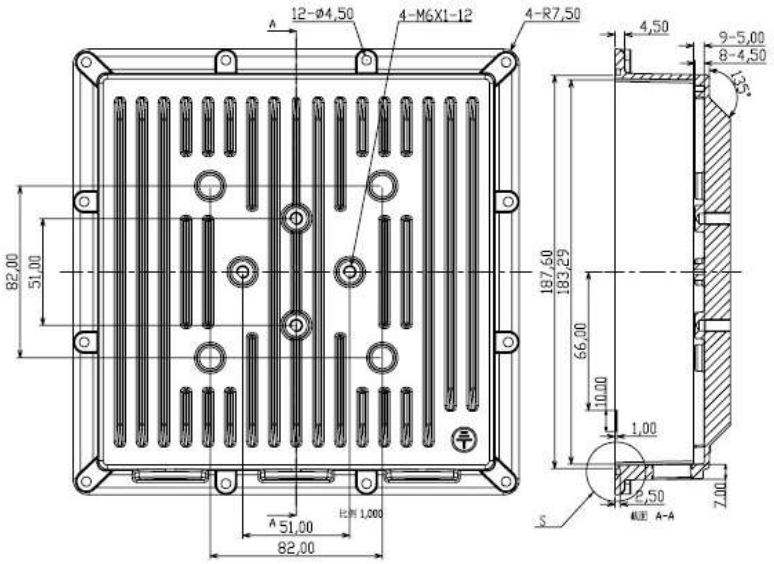
**For details channels frequency allocation, please refer to "Regor Channel Allocation Table" document

- **Mechanical Dimension**

**All figures are measured in mm

XHD Minor

Enclousre dimension

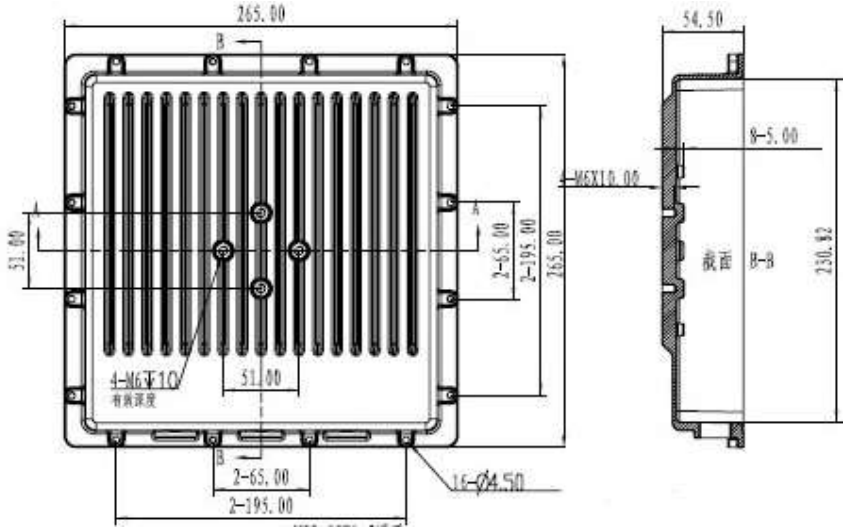


Antenna dimension

216 x 216 x 25

XHD Major

Enclousre dimension



Antenna dimension

450 x 450 x 42.5

5. Operating method of reader

1. Execute Reader@Express.exe file.
2. Connect the interface cable to the reader
3. Connect DC12V power adaptor to the interface cable; a beep sound will be played when the reader's booting is completed(10 seconds)
4. Connect RS-232 cable or Ethernet cable to the interface cable and host computer.
5. Check settings of "Fixed 4 Channel-IDRO900F, Serial, COM1" of Reader@Express.
6. Click Reader@Controller to connect the reader to PC.
7. See Reader@Express User's manual for detailed operating method of Reader@Express.

<Reader@Express>

6. Installation of the reader

Step 1:

Unscrew the four bolts on the center back of the reader and then apply some silicone sealant into the screw holes.

remove bolts and apply silicone sealant

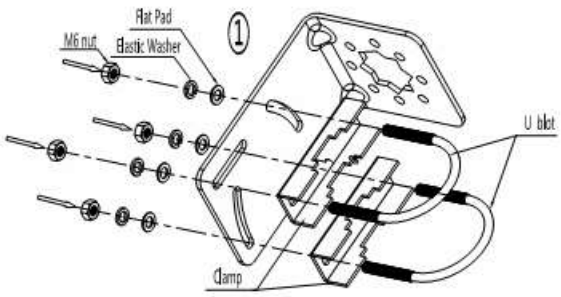
Step 2:

Put on the mounting bracket in the orientation needed and put on the bolts. Tighten the bolts using a wrench. (IMPORTANT: ONLY USE THE BOLTS PROVIDED, DO NOT USE OTHER BOLTS; FAIL TO FOLLOW THIS INSTRUCTION COULD DAMAGE THE INTEGRITY OF THE READER)

Attach mounting bracket to reader

Step 3:

Assembly the mounting bracket to the infrastructure



Mounting Mast Diameter Ø40~Ø60 mm

For any technical support, please contact: support@star-int.net or contact us at +852 3691 9925.